

**ROCKY MOUNTAIN CENTER FOR  
OCCUPATIONAL AND  
ENVIRONMENTAL HEALTH -  
EDUCATION AND RESEARCH CENTER  
FOR OCCUPATIONAL SAFETY AND  
HEALTH**

**SUMMARY ANNUAL REPORT**

**July 1, 2008-June 30, 2009**

**NIOSH Training Grant  
No. T42 OH 008414**

**SUBMITTED BY:  
KURT T. HEGMANN, M.D., M.P.H.  
CENTER DIRECTOR  
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SALT LAKE CITY, UT 84108**

**(October 1, 2009)**

**Administration** Kurt T. Hegmann, MD, MPH, Center Director

In 2008-09, the RMCOEH continued to meet all goals and objectives. The RMCOEH holds monthly Center Executive Committee meetings, biannual RMCOEH Advisory Board meetings, Advisory Board Executive Committee meetings and RMCOEH annual retreats. There were several major advances.

- The RMCOEH obtained new support through the passage of SB15, a bill that provides for the statutory creating of the Eddie Mayne Funds that are specifically directed to the RMCOEH (up to \$150,000/yr).
- The RMCOEH has matriculated and graduated its first students in our new, accredited Master of Occupational Health and Master of Science in Occupational Health Degree Programs.
- We received ABET-ASAC accreditation for the IH/HSAT programs and ACGME approval for the Occupational Medicine program.
- The RMCOEH hired 2 new faculty (OIPRT, E&S).
- RMCOEH space was expanded to accommodate our growing programs.

**Diversity Recruitment** Don Bloswick, PhD, PE, CPE

Diversity recruitment efforts continued. Four underrepresented minorities students applied and one was accepted into the programs (others were not qualified or did not accept). Drs. Collingwood and Sesek worked with Sweeney Windchief, Assistant Dean for Diversity at the U. of Utah, and hosted tours of the RMCOEH as part of the 2008 Society for Advancement of Chicanos and Native Americans (SACNAS) conference held October 9-12, 2008 in Salt Lake City. Approximately 300 high achieving Hispanic and Native American students attended. Dr. Bloswick hosted two Native American engineering students as part of the UU Graduate School Diversity weekend in AY 07/08 and has coordinated with representatives of Northern Arizona University (6<sup>th</sup> in the nation for Native American engineering graduates) to schedule a visit by RMCOEH personnel. Plans are being formulated to travel to Salish Kootenai College in Pablo, Montana to visit with prospective IH/HSAT students. We have made contacts with the National Hispanic Medical Association and the Latino Medical Student Association to offer rotations and shadowing opportunities for prospective OM residents.

**Statistical Economic Evaluation Unit (SEEU)** Norm Waitzman, PhD

The SEEU served as a resource to the Center in providing the statistical and economic tools for evaluating interventions to improve workplace health and safety. The SEEU has contributed throughout the year in providing insights, including lectures to trainees conveying the rudiments of cost assessment and cost-effectiveness techniques.

**Outreach** Connie Crandall, MA, MBA

Outreach continued to be a significant emphasis at the RMCOEH, with the goal of helping to ensure that knowledge is translated into practice. The Center policy that requires measurable outreach activities by each faculty member each year was further implemented. Thousands of contact hours are recorded annually. For example, in 2008-2009, over 2,000 contact hours were given in presentations alone, including over 500 contact hours of CME/CEUs in addition to CME/CEU in the CE & HST programs.

**Pilot/Small Projects Research Training (PPRT)** Matthew Hughes, MD, MPH

The 3 investigators who received awards in 2007 have made excellent progress. Dr. Collingwood's study was on track and will be completed in 2009, as planned in his proposal. Dr. Drinkaus has submitted a final report and is preparing the report for submission to a peer-reviewed journal. Ms. Hart also made significant progress. As planned in 2007, the 2008 program announcement was posted in March 2008, significantly earlier than in 2007. The due date for applications was 15 May 2008, and we received six proposals. The earlier posting and submission dates permitted review and scoring of the proposals by the Scientific Review Committee (SRC) in May and June 2008 with a conference call to select recipients on 18 June. One proposal was funded by another University, and 3 of the remaining 5 proposals were selected for funding. In addition, the second year of Dr. Collingwood's study was funded. The three new proposals funded were by Dr. Thiese, (RMCOEH) "Slips, Trips, and Falls Among Commercial Truck Drivers"; Dr. Rosecrance (Colorado State University) "Reliability of Assessing Occupational Exposures to Awkward Positions in Appliance Manufacturing"; and Dr. Saito (Colorado State University) "Chemical Analyses of Bacterial Composition and Potency in Agriculture. The

Pilot/Small Projects Research Training Management Committee met on 22 July 2008 and made minor revisions to the application and review procedures to expedite processing in 2009.

**NORA Research Project** Kurt T. Hegmann, MD, MPH

The LBP cohort study continued. We have not enrolled more subjects in the past year, rather we have worked vigorously to perform the data clean-up activities and the final statistical analyses have begun.

**Ergonomics & Safety (E&S)** Don Bloswick, PhD, PE, CPE

The E&S Program trained 12 full time (10 M.S., 2 Ph.D.) and 14 part time trainees (11 M.S., 3 Ph.D.) of whom 12 graduated during the AY (10 M.S., 2 Ph.D.). The academic program now consists of eight 3-credit courses offered on a regular basis. All topics (both "highly recommended" and "recommended") noted in the NIOSH Guidelines for Graduate Programs in Occupational Safety (by The Occupational Safety Academic Training Program Panel) are covered in the M.S. and Ph.D. program courses (or pre-requisites). E&S students are required to present their research at the successful, annual Regional National Occupational Research Agenda (NORA) Young/New Investigators Symposium, which has been held on the University of Utah campus since 2003. The interdisciplinary course "Occupational Health Solutions" has been refined even further and is a great success. The course is team taught by Drs. Wood, Merryweather, Collingwood, and Larson (OM, E&S, and IH cores). This course includes on-site student projects completed by interdisciplinary teams from RMCOEH (IH/HSAT, OM, OIPRT, and E&S) who visit local manufacturing facilities and work together to solve real world health and safety problems. It is a required capstone course for all trainees in all RMCOEH academic programs. The off-site ATK M.S. Mechanical Engineering Program has grown to 40 active students, of whom approximately 30% focus on E&S as their area of emphasis and take 3-5 E&S courses.

**Industrial Hygiene (IH)** Rod Larson, PhD, CIH

The IH program continued to meet its goals and objectives. Two students graduated from the program with four matriculating into the IH program bringing the number of IH students to five full-time and 4 part-time students. The IH Program continued research projects into health effects of smoke inhalation among firefighters. Students are involved in these research projects, including one student developing exposure estimation algorithms for firefighters involved in various types of fires and site cleanup activities after fires. Another major research project is the National Children's Study, which the IH Program leads the environmental assessment team. We requested transfer of the ABET-ASAC accreditation for the IH and HSAT programs from the MSPH degree to the MSOH degree. Once that is received, it is expected to be easier to recruit military personnel into these programs as well as to better train our students in OSH. As a result of the availability of the new Master of Science in Occupational Health (MSOH) degree to IH students, the number of students in the program is expected to grow significantly in the next few years.

**Hazardous Substances Academic Training (HSAT)** Leon Pahler, PhD, MPH, CAIH

The HSAT program continued to meet its goals and objectives. One student graduated from this program. Two new students entered the program bringing the number of HSAT students to four. In addition, because of diversity recruiting, one of the new HSAT students is of Hispanic ethnicity. In March, 2008 Dr. Leon Pahler replaced Dr. Rod Larson as Director of the HSAT Program. Also during this last period, the new annual "Quantitative Risk Assessment" course (FPMD 6730), which is now required to be taken by all HSAT students, was held. Another project involved researching the current status of exposure limits for police officers potentially exposed to methamphetamines. Recommendations were formulated for safe exposure limits for concentrations of methamphetamine on surfaces and were provided to the Utah Dept. of Health for consideration in establishing new Methamphetamine standards. The HSAT students were involved in multiple research projects, also including one project to evaluate dispersion of potentially hazardous materials resulting from implosion of a high-rise building containing silica and lead. Another study was to evaluate methods for monitoring diesel particle emissions in underground mines using various types of monitoring methods, with a focus on particle concentration by particle size and particle count, as well as particle composition.

**Occupational Injury Prevention & Research Training (OIPRT)** Don Bloswick, PhD, PE, CPE

The OIPRT program continued to meet its goals and objectives. The program trained 2 PhD level trainees of whom one graduated during the AY. The graduate is employed in academia. The two primary goals from the last grant submission, (1) provide quality Occupational Safety Engineering (OSE) and Occupational Injury Epidemiology (OIE) academic programs, and (2) accomplish NORA-related OSE and OIE research and translate it into practice (r2p) have been accomplished. The academic program integrates engineering and epidemiology with students in the OSE program emphasizing engineering and students in the OIE program emphasizing epidemiology. Students completing the OSE Program receive a Ph.D. in M.E. and students completing the OIE Program receive a Ph.D. The OSE and OIE curricula cover all of the topics noted in the NIOSH Guidelines for Programs in Occupational Injury Prevention. Both OIP Students were involved in two large prospective NIOSH-funded research projects: Upper Limb Musculoskeletal Disorders - Quantifying Risk and/or Low Back Pain - Quantifying Risk Factors and, in addition to journal submissions, are required to present their research at the annual Regional National Occupational Research Agenda (NORA) Young/New Investigators Symposium, which has been held on the University of Utah campus since 2003.

### **Occupational Medicine (OM)** Eric Wood, MD, MPH

In total, the OM residency program has trained 78 highly skilled OM physicians filling a critical need to NIOSH Region VIII, which is underserved by OM specialists. During the period of 07/01/08-06/30/09, 6 residents were enrolled in the program with 2 residents in the academic PGY-2 year, and 4 residents in the practicum PGY-3 year (2 additional residents graduated off-cycle in October and December 2008 respectively). Current academic training consists of completion of graduate education over a period of 3 semesters leading to the MPH degree, or over a period of 2 semesters leading to the MOH degree. Residents starting the program in the July 2009 class will matriculate in the MOH program. We anticipate increasing the number of residents through the US Air Force, and 1 aerospace medicine resident has already agreed to enter the MOH program for the 2009-2010 year. Clinical and research activities continue as in the past year. The program is developing updates to clinical practice guidelines for the American College of Occupational and Environmental Medicine (ACOEM) to improve care of injured workers.

### **Continuing Education (CE)** Connie Crandall, MS, MBA

The CE Program met its goals and objectives. Attendance remained high with 2,389 trainees attending 148 CE activities. This includes both traditional (2,362 trainees) and online (27 trainees) activities. Distance education efforts include the following online OSHA courses that are offered in cooperation with a commercial provider: OSHA 10-hour General Industry Outreach Training Program, OSHA 30-hour Construction Industry Outreach Training Program, OSHA 501: Trainer Course in Occupational Safety and Health Standards for General Industry, and OSHA 500: Trainer Course in Occupational Safety and Health Standards for the Construction Industry. The CE Program also partnered with the Utah Association of Occupational Health Nurses to offer a CA-MRSA webcast. The CE program again offered a number of courses in surrounding areas to enhance regional coverage. Courses were conducted in Magna and Moab, UT, Green River, WY, Burley and Pocatello, ID, Chicago, IL, Tampa, FL, and San Diego, CA. New courses offered during this period include 1) Asbestos Worker Training in Spanish, 2) Introduction to Safety & Health Management, 3) How to Build a Case for Safety with Upper Management, 4) Welding Safety, 5) Ergonomics Update for the Safety Professional, 5) Ergonomics Analysis Tools for Industrial Tasks; 6) Useful Chemistry for the Environmental Health & Safety Professional, and 7) Keeping Your PPE Program Up to Date. Finally, the CE Program has submitted an application to the Environmental Protection Agency to offer Lead Safety and Renovation, Repair and Painting training. A site visit has been conducted by the agency and notification of approval is pending.

### **Hazardous Substance Training (HST)** Connie Crandall, MA, MBA

The HST Program met its identified goals and objectives. 362 trainees attended 35 HST courses. Two new courses were offered as open enrollment courses: 1) 8-Hour Incident Command Refresher and 2) 24-hour HAZWOPER training (offered 4 times). Two additional new courses were offered as online offerings [in partnership with Hazardous Materials Training Institute (HMTRI)]: 1) 24-hour HAZWOPER training and 2) 40-Hour HAZWOPER training. Regional needs assessments are distributed every other year with the next assessment to be conducted in 2010. The target audience for the assessment includes government agencies as well as other facilities and organizations with a projected need for hazardous substances training.